

Conference and Plenary Meeting of the Permanent Committee on Cadastre in the European Union (PCC)

“Cadastral Authorities' Role and Contribution to Security and Prosperity”

Dr. Daniel Steudler, Chair of CLRKEN

Results of the Questionnaire



Joint PCC and EuroGeographics CLRKEN Conference
Gävle, Sweden, 8 - 9 June 2023

Aim of Questionnaire

- to collect input from participating countries about their status in relation to the conference topic
- Sweden's six-month programme for the EU Presidency is based on four priorities: **Security** – unity / **Resilience** – competitiveness / **Prosperity** – green and energy transition / **Democratic values and rule of law** – our foundation
- theme of conference: *The Cadastral Authorities Role and Contribution in the Fields of Security and Prosperity*

“Cadastral Authorities' Role and Contribution
to Security and Prosperity“



Cadastral and Land Registry
Knowledge Exchange Network

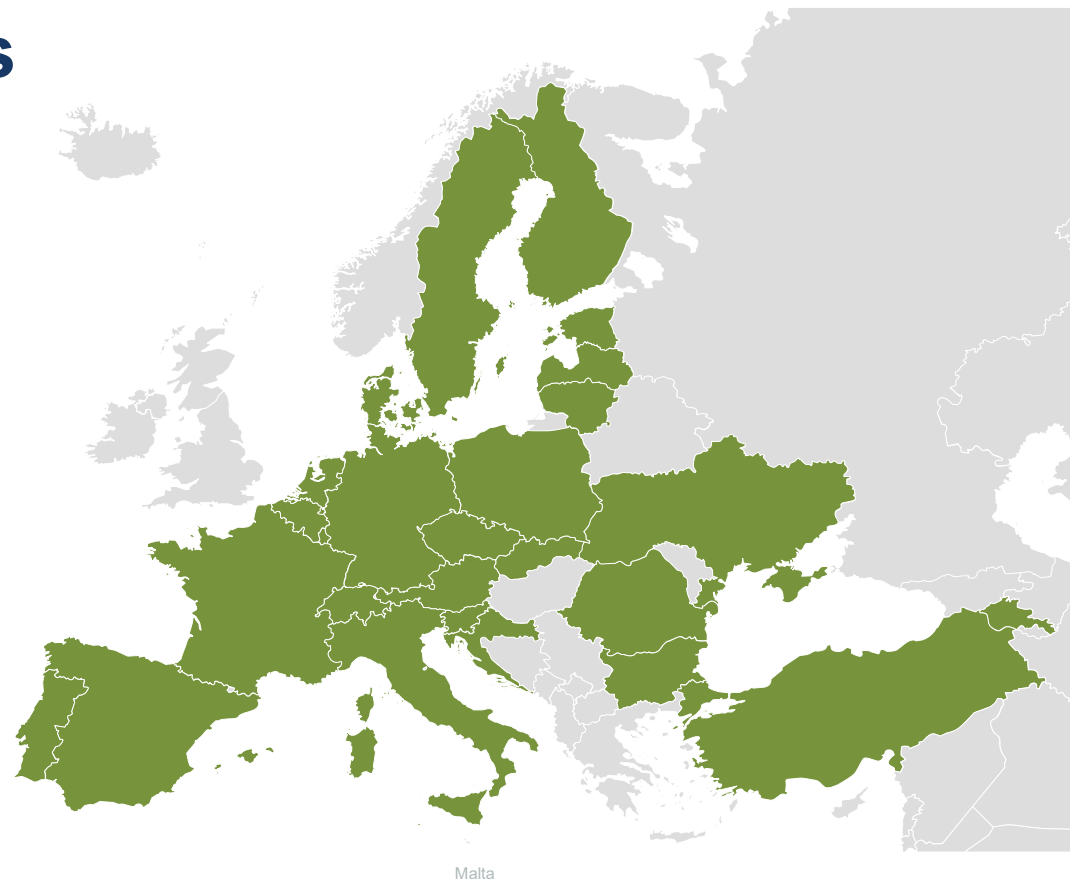
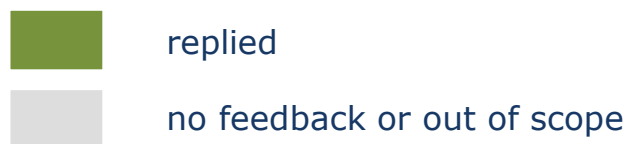
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“Cadastral Authorities' Role and Contribution
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26 Participating countries

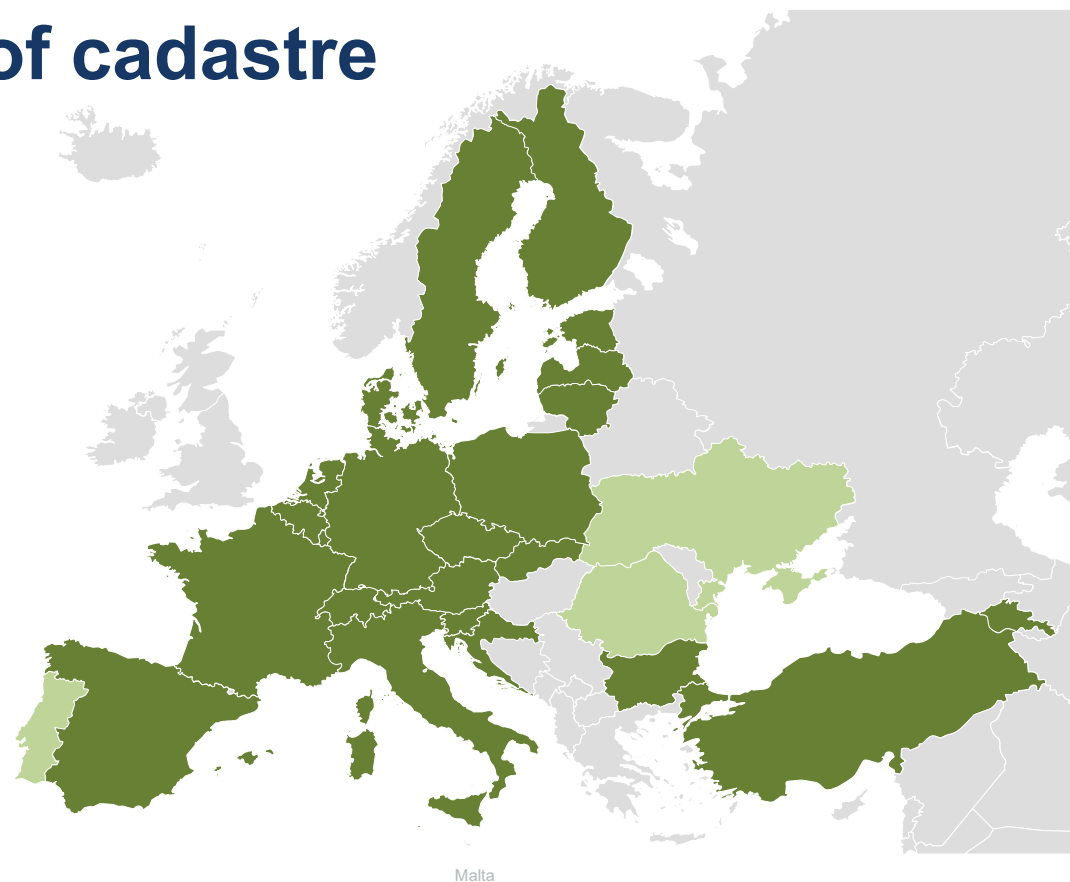
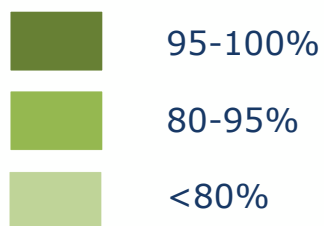


Part 1 – Security of ownership and tenure; rights-restrictions-responsibilities

Securing landownership is the foundation of a market economy and a functioning credit market. Uncertain or no boundaries are a major source of concern and dispute in any part of the world.

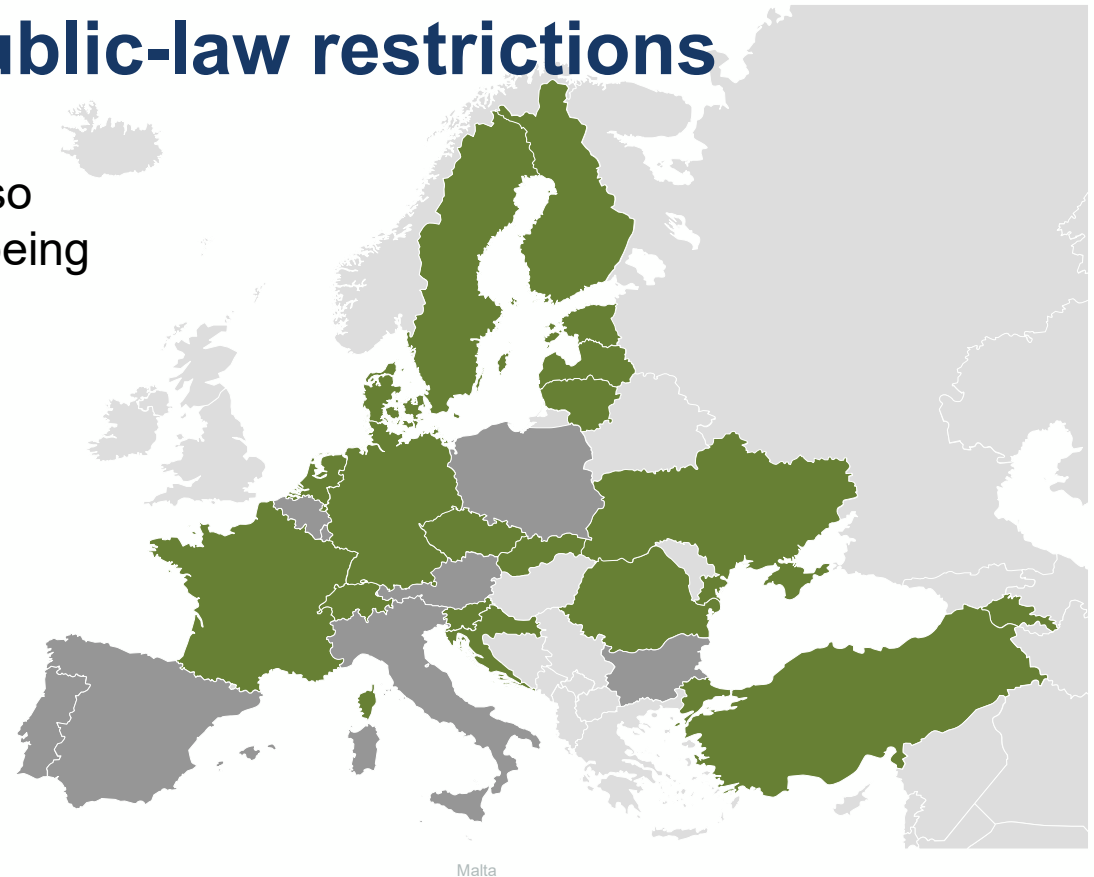
Q2) Territorial coverage of cadastre

What is the territorial coverage of the cadastre in your country?



Q3) Documentation of public-law restrictions

Beside private-law ownership rights, are also public-law restrictions and responsibilities being documented in your cadastre?



Q4) Most common restrictions and responsibilities

If documented in the cadastre, what are the most common topics of restrictions and responsibilities? Please provide three examples:

- 5 - servitudes
- 5 - protection zones (heritage, archaeological site, cultural regime, municipal monument)
- 5 - nature and landscape protection, forestry reservation
- 5 - mortgage / loans / leasehold / real burdens
- 5 - land-use zones and planning
- 5 - infrastructure reservation and protection zones (road, motorway, power lines)
- 3 - water and coastal protection
- 3 - encumbrances
- 2 - utility networks and easements
- 2 - rural land development and soil protection zones
- 2 - re-development, land reallocation
- 2 - prohibition of alienation
- 2 - building rights
- 2 - agricultural land
- 1 - sanitary protection zone
- 1 - military security zone

Q5) Quality of cadastral map

Can you give a short summary on the quality of the cadastral map as to accuracy of property boundaries or geometrical description of the property?

Accuracy sufficient
 Accuracy depends if a parcel has been surveyed: urban: few cm / rural: few m
 Mean value: urban: 1m / rural: 2.5m
 Mean value: urban: 5cm / rural: 1m
 Accuracy: classes, 30% is sufficient (14cm), 70% must be improved (>1m)
 Accuracy: urban: 2cm / Neighbour principle
 Boundaries fixed by measurement
 51% of parcels surveyed with accurate surveying techniques, 18% in historic coordinate system, 7% by adjustment of tape measures
 Urban: based on topographic map accuracy / rural: based on orthophotomaps
 Accuracy lower in rural areas
 Accuracy heterogeneous: 60% of maps are good quality / 40% of maps are poor quality (from Napoleon)
 Distinguish: numerical survey (after 2000) / vectorization of numerical survey (before 2000) / vectorization of graphic survey
 85% of maps: 2m
 1-2cm for recently surveyed parcels / 1-2m for parcels measured >75 years ago
 52% of parcels derived from property boundary maps / 48% derived from orthophoto or topographical maps
 Accuracy urban: 20cm / rural: 40cm
 Required accuracy: 10cm / heterogeneous quality
 50% of information has MSE of 1m / 50% of 40cm
 Allowed errors: Fenced immovables: 10-20cm / Unfenced immovables: 30-40cm
 Urban: cm / rural: up to 50-100m
 30% of all parcels are better than 1m
 Accuracy: 0.08-5m
 80%: cm level (<9cm) / 16%: cm level (21cm-1m) / 4%: m level (<1.5m) / 0.2%: m level (<5m)

- Accuracy definition of property boundaries:
- distinction between urban – rural
 - accurate survey vs. orthophoto or topographic mapping vs. digitization of analogue paper maps
 - neighbourhood principle

Q6) Challenges in terms of disputes or quality of data

Are there any specific challenges in terms of disputes or quality of data you would like to highlight?

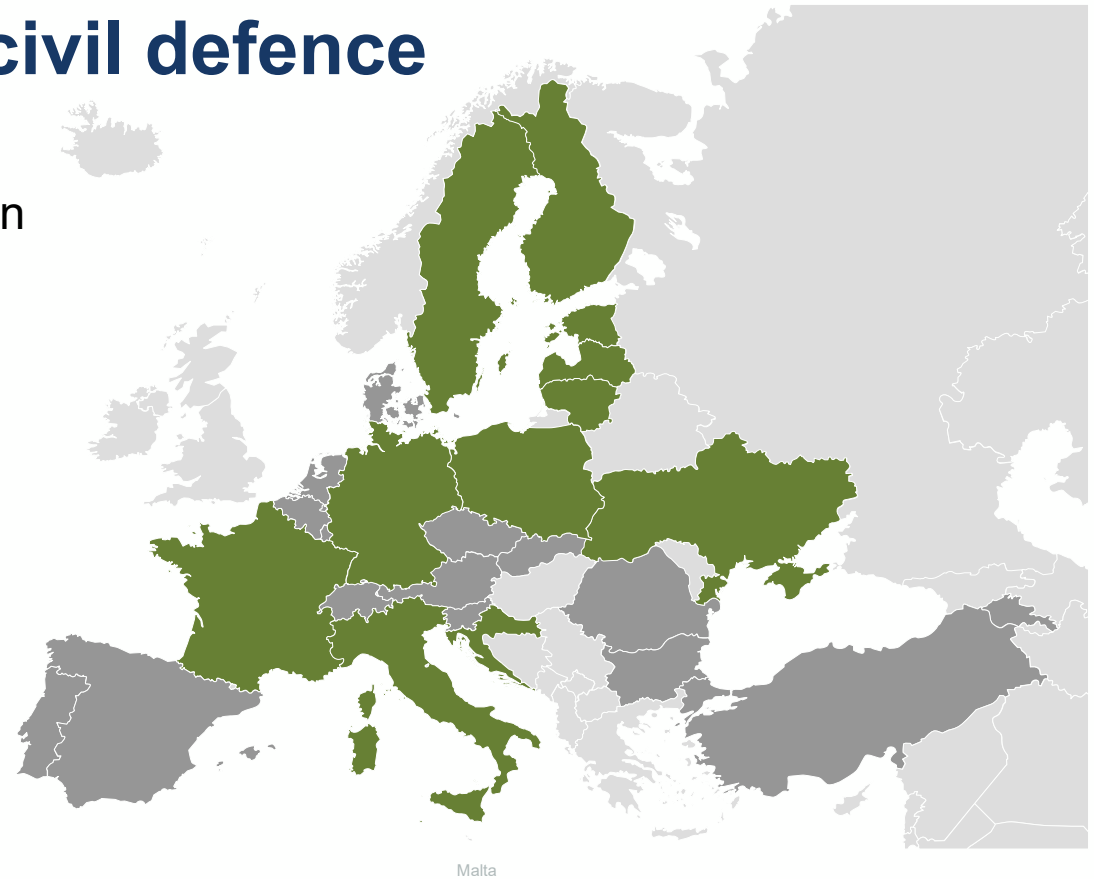
- 7 - Demand for higher geometric accuracy, discrepancies between cadastral maps and orthophoto maps
- 6 - Incorrect or inaccurate delineation of boundaries, land slide areas
- 3 - Revision, digitization, vectorization of cadastral data, renewal of analogue paper maps
- 2 - Improve data content and actuality, discrepancies of data between land registry and cadastre
- 1 - Higher absolute accuracy conflicting with relative neighbourhood accuracy
- 1 - Territorial coverage
- 1 - Size of property is more sensitive than geometric accuracy
- 1 - Registration of landownership is not mandatory

Part 2 – Security in the field of military and civil defence

There is a clear need for robustness and resilience of basic infrastructures in times of uncertainty and turmoil. Cadastral organizations are responsible for basic land administration data and functions; they need to be prepared and ready for actions in order to prevent and manage catastrophic consequences e.g., from landslides, flooding and wildfires.

Q7) Role in military and civil defence





Does your cadastral authority have a role in military and civil defence?

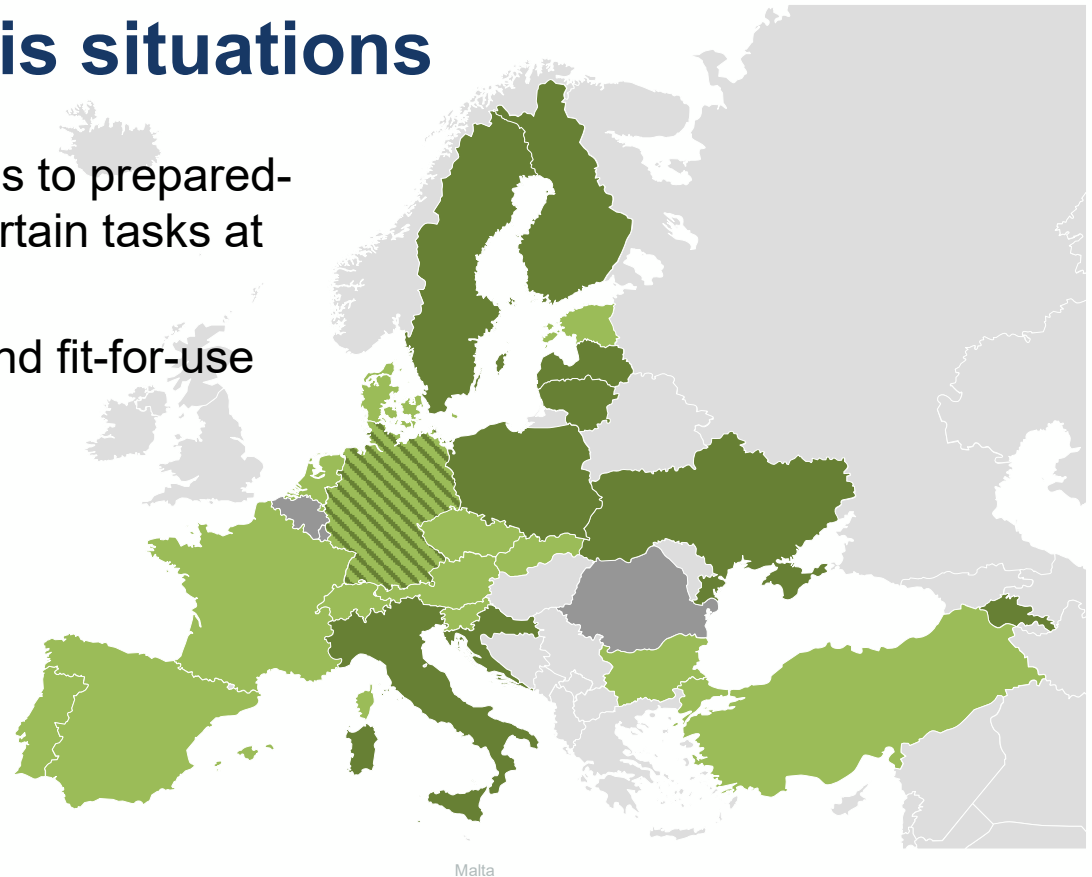


Q8) Role and data in crisis situations

Does your cadastral authority have a **role** as to preparedness for crisis situations and to carry out certain tasks at high alert? → yes/no

Cadastral **data** are being kept accessible and fit-for-use by emergency organizations? → yes/no

-  Cadastral authority is prepared for crisis situations and cadastral data are fit-for-use in emergencies (9)
-  Cadastral data are fit-for-use in emergencies (13)
-  due to the federal system in DE, the answers depend on the Bundesland (1)
-  none of the above (3)



Q9) Co-operation and co-ordination between authorities

In general terms, how is co-operation and co-ordination between different authorities dealing with geospatial data set up in your country?

- 10 - Interoperability, Data exchange platform, Portal, WMS
- 8 - National Geodata Infrastructure (NGDI)
- 5 - Formalized cooperation between authorities, National policy, Public registers
- 4 - Cadastre as basis for NGDI
- 4 - Board/Council for Spatial Information
- 3 - Clear definition of responsibilities

Q10) Prevent and manage catastrophic consequences

Do you have some examples on how your organization is contributing / working to prevent and manage catastrophic consequences from landslides, flooding, wildfires or other environmental hazards?

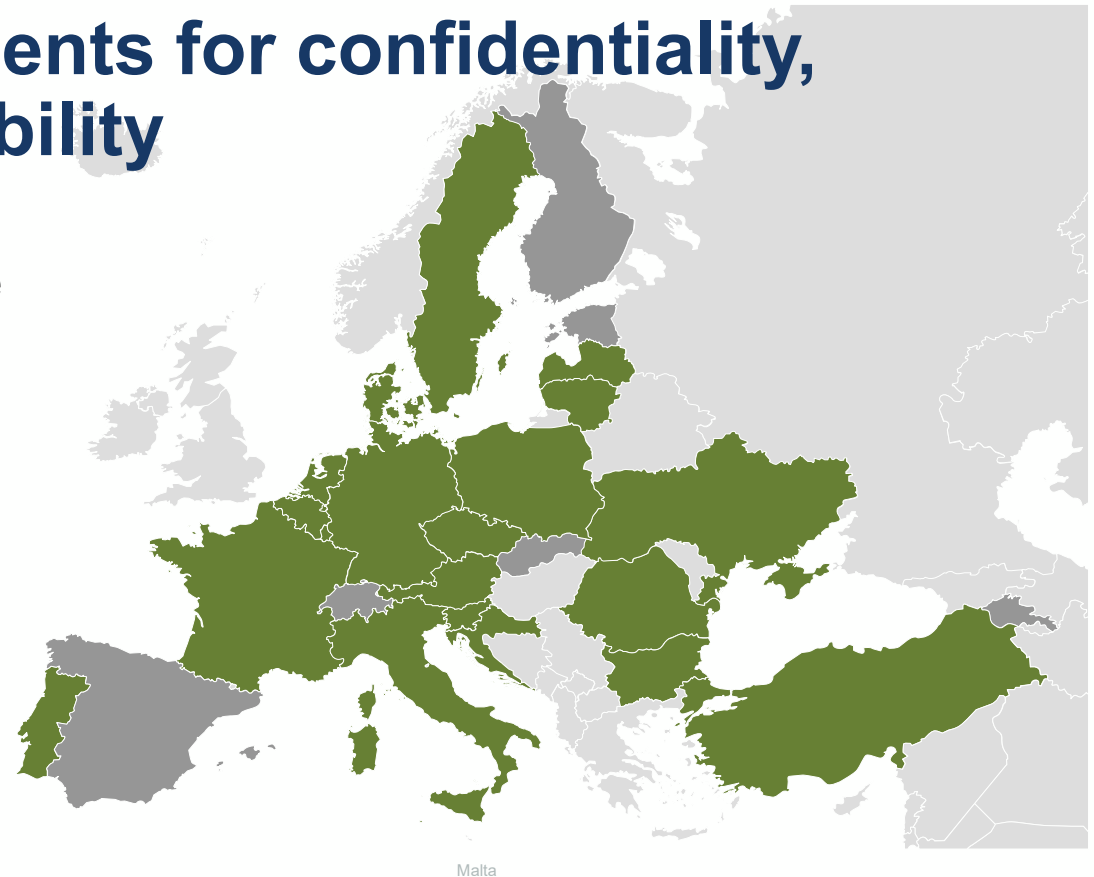
- 12 - Cadastral data as basis
- 6 - Geoportal, national IT platform, Web service, WMS services
- 3 - Geospatial reference data, Maps for risk management
- 1 - Control measurements
- 1 - Emergency committee

Part 3 – Information security and need of openness

Cadastral data and information is a most valuable resource for the functioning of a society. An important aspect for securing data and information is information technology (IT) security. This also includes handling information in respect of confidentiality, accuracy and availability.

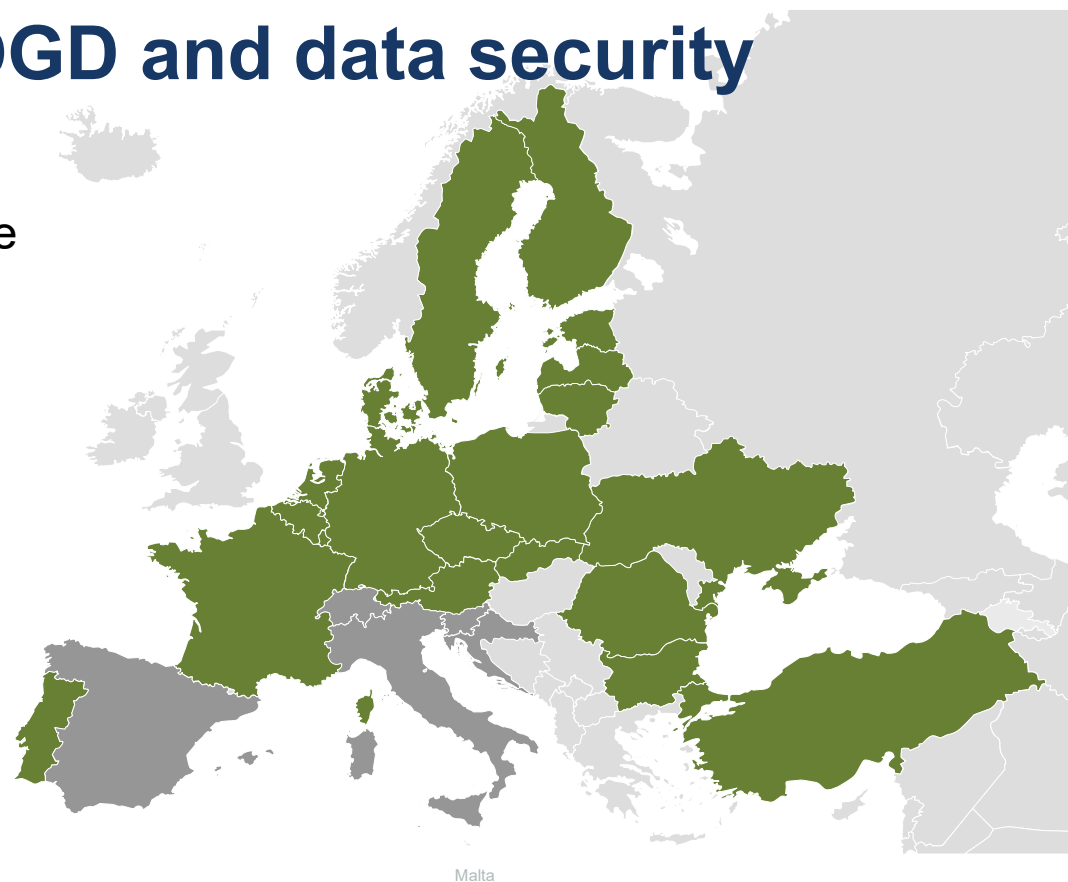
Q11) Increasing requirements for confidentiality, accuracy, and availability

For cadastral data and information, did the requirements for confidentiality, accuracy and availability increase over the last few years?



Q12) Conflicts between OGD and data security

Over the last few years, did you experience conflicts between data openness (Open Government Data) and data security?



Malta

Q13) Specific challenges

In relation to Q11) and Q12), are there any specific challenges you would like to highlight?

- 5 - GDPR (General Data Protection Regulation) vs. PSI (Public Sector Information Directive)
- 5 - conflict of war makes open data critical, private and national security
- 2 - GDPR vs. Open Data Policy
- 2 - data access and cooperation between professional organizations and between different administrative levels
- 1 - open data vs. protection of personal data (also data on cables and pipelines)
- 1 - keeping the balance between servicing requests and collecting revenue
- 1 - GDPR and HVD sets
- 1 - compliance with GDPR